1. (Twice Amended) A method of detecting photons, comprising the acts of:

providing a superconducting strip maintained at a temperature below its critical temperature;

electrically biasing said superconducting strip; [and]

directing light unto said biased superconducting strip;

wherein said biasing is at a level near said superconductor strip's critical current thereby to detect a single photon incident on said superconductor strip; and

time resolving said light directed unto said biased superconducting strip.

2. (Original) The method of claim 1 wherein said single photon is detected by measuring an output pulse from said superconductor strip.

3. (Original) The method of claim 1 wherein said superconductor strip is of niobium nitride.

4. (Original) The method of claim 1 wherein said single the at least one photon has a wavelength between the visible and the far infrared spectral regions.

5. (Original) The method of claim 1 wherein said superconductor strip defines a meander.

6. (Original) The method of claim 2 wherein said superconductor strip has a width equal to or less than about 200 nm.

7. (Twice Amended) A photon detector comprising:

a superconducting film coupled to a bias source, wherein said superconducting film is maintained at a temperature below its critical temperature and biased near its critical current, [and] wherein said superconducting film has a dimension which allows detection of a single incident photon;

a time measuring device coupled with the superconducting film, the time measuring device configured to time resolve the detection of the single incident photon.

8. (Original) The photon detector of claim 7 wherein said superconducting film is of niobium nitride.

9. (Original) The photon detector of claim 7 wherein a width of said superconducting film is equal to or less than about 200nm.

10. (Original) The photon detector of claim 7 wherein said superconducting film forms a detectable resistive region upon absorption of said single incident photon.

11. (Original) The photon detector of claim 7 further comprising:

a plurality of contact pads coupled to ends of said superconducting film; and

wherein said bias source is coupled to said superconducting film at said plurality of contact pads.

12. (Original) The photon detector of claim 7 wherein said superconducting film defines a meander.

13. (Original) The photon detector of claim 11 wherein said contact pads include gold.

14. (Original) The photon detector of claim 7 wherein light is coupled to said superconducting film using an optical fiber.

15. (Original) The photon detector of claim 7 wherein light is coupled to said superconducting film through a hemispherical lens.

16. (Previously added) The method of claim 2 wherein said output pulse has a voltage greater than 1 mV.

17. (Previously added) The method of claim 1 wherein said single photon creates a resistive region extending across the width of said superconductor strip.

18. (Previously added) The photon detector of claim 7, wherein said single photon generates an output pulse from said superconducting film having a voltage greater than 1 mV.

19. (Previously added) The photon detector of claim 10, wherein said resistive region extends across said dimension of said superconducting film.

20. (New) The method of photon detection of claim 1 further comprising:

directing light from at least one switching transistor unto said biased superconducting strip, said light emissions comprising at least said single photon.

21. (New) The method of photon detection of claim 20 further comprising:

providing switching timing information about said at least one switching transistor.

22. (New) The method of photon detection of claim 1 further comprising:

time resolving said light directed unto said biased superconducting strip to at least one nanosecond.

23. (New) The photon detector of claim 7 wherein the time measuring device is configured to time resolve the detection of the single incident photon to at least one nanosecond.

24. (New) The photon detector of claim 7 wherein the superconducting film is configured to receive light emissions from at least one switching transistor, the light emissions comprising at least the single incident photon.